

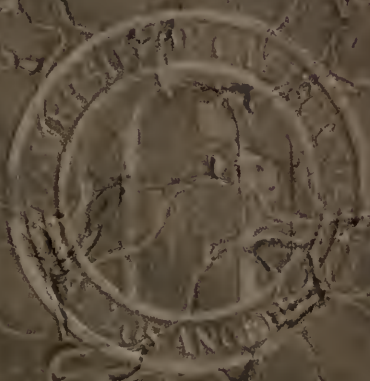
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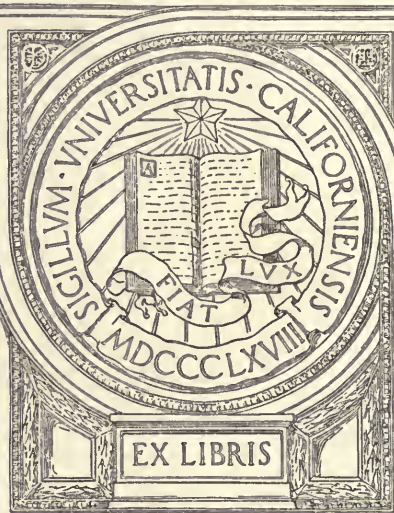


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MARTIN BEHAIM,  
THE  
German Astronomer and Cosmographer  
OF  
THE TIMES OF COLUMBUS:  
BEING THE TENTH ANNUAL DISCOURSE  
BEFORE THE  
MARYLAND HISTORICAL SOCIETY,  
*On JANUARY 25th, 1855.*  
BY JOHN G. MORRIS, D. D.



Baltimore: . . . Printed for the Maryland Historical Society,

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OF COLUMBUS.  
AT LOS ANGELES.

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## Martin Behaim.

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THERE are many men who have acted conspicuous parts in scenes of thrilling historical interest, whose names are little known to general readers, and whose surpassing merits are not properly appreciated. They have been either lost in the more refulgent light of brighter luminaries, or have been purposely over-looked by cotemporaneous historians. Fellow laborers in the same field of investigation, who have left records of their own operations, may have from envy or interested selfishness, disregarded their claims to distinction or only casually mentioned their names as associated with themselves. Thus often, real merit in science, literature and art, is depreciated, and many a man, on the other hand, gains credit for what he never achieved, and receives a reward which he never deserved. But posterity often awards to a man the honor which his cotemporaries have denied him. All history demonstrates this fact. There is a resurrection of genius, which had long been buried in oblivion. Envy and detraction may dig its grave and bury it; but eventually it comes forth reanimate. It was not dead; it only slept.

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Historians and poets of the olden time speak of various statues, and other works executed by distinguished artists of their day, which then attracted the admiration of the world of taste and refinement, but most of them with even the names of the artists also, have perished. Now and then, one is exhumed from amid the rubbish of some ancient temple, and men of artistic taste and knowledge recognize it as the long lost production of some celebrated sculptor of antiquity. It may be mutilated to some extent, but the modern artist sets to work and repairs it. He endeavors to restore it to its original beauty and symmetry, and however he may fail, yet the ancient artist's name is rescued from oblivion, and posterity awards him due honor.

Let ours be the task of bringing out from undeserved obscurity, a man famous and powerful in his day, but now known only to comparatively few; a man cotemporary with the discovery of our country,—the associate and assistant of Columbus,—the fellow voyager with many of the great navigators of that period,—a man to whom his too ardent friends have attributed the discovery of this continent, but whilst he does not deserve, and never claimed that distinction, still by his astronomical and geographical science, far in advance of most men of his generation, as well as by his superior skill in the preparation of nautical instruments and charts, contributed much to the splendid geographical discoveries of that adventurous age.

We allude to MARTIN BEHAIM of Germany. His name is not as familiar to us as those of Columbus, and Vespuccius, Magellan, and de Gama, but it will be shown that his services were not less valuable,

and his merits not less commendable. Probably exceeding them all in scientific acquirements, he not less deserves the admiration and gratitude of mankind. His name has been for several ages somewhat obscured, but it is beginning to shine forth in its original lustre. The bright, particular star is emerging from the cloud which for years had partly concealed it, and it now again holds a conspicuous place in the firmament of science. Professor Ghillany of Nurnberg, of all others, deserves most credit for resuscitating the name of Behaim, and to his magnificent work on this subject, all future historians and biographers must go for full and authentic information.

The Historical Society of Maryland does not confine its researches exclusively to the history of our own State, but extends them to other lands and other ages; and hence it will not be thought improper to introduce a subject foreign to our own land and age.

Before we enter more particularly on our specific subject, we shall dwell for a few minutes on some facts of great historical interest closely connected with it.

The whole history of the discovery of our country is full of interest. We do not allude merely to the adventurous daring, the appalling sufferings, the unconquerable perseverance, the lion hearted energy of the men who achieved it, all of which have been so graphically described by historians, and by none so well as by our own illustrious countryman, Mr. Irving, but we allude to the scientific results of those various expeditions, and we shall confine ourselves for the present more particularly to some of

the maps and charts, which these bold adventurers prepared. It will be seen that whilst they are exceedingly imperfect and erroneous in many respects, yet they are objects of deep interest to men who study the early history of our continent.

To Humboldt we are indebted for the publication of the earliest *pen and ink* map of America, extant. There is but one copy of the original known, and that belongs to the valuable collection of the distinguished Baron Walckenaer of Paris, where, in 1832, Humboldt first discovered its real character, and its real author. It had until then been regarded as a Portuguese map of the world of an unknown age. It is a map of the world by Juan de la Cosa, (also called Juan Biscaino,) which he drew in the year 1500, i. e. six years before the death of Columbus. It was a precious discovery to such a man as Humboldt, and he had the most important sections of it engraved on three sheets. It bears the inscription, Juan de la Cosa la fizo en el Puerto de Ste. Maria en año 1500. This inscription stands under a small colored picture, representing the great Christopher wading through the sea, and bearing on his shoulders the infant Christ, carrying a globe in his right hand, a significant allusion to Christopher (Christ bearing) Columbus, and expressive also of the hope of the spread of Christianity which the discovery of this continent (Aug. 1, 1498) excited. Juan de la Cosa, the draughtsman of the map, was the associate of Columbus on his second expedition, which continued from September 25, 1493, to June 11, 1496. He was connected with five expeditions, in two of which he was commander. He must have been a man of great nautical experi-

ence and science, and perhaps of some presumption too, for in the evidence in a trial growing out of the operations of Columbus, it is said by one of the witnesses, that Christopher Columbus, who was usually styled admiral, complained of Juan de la Cosa "for going about and claiming that he knew more than he, the admiral himself."

That section of the map most interesting to us, represents in tolerably exact configuration, but too far north for the greater and less Antilles, the northern coast of South America, also the eastern coast on which the mouths of the Orinoco and Amazon rivers are laid down. A coast line without any name from Cabo de la Vela to the extreme north, connects Venezuela with Labrador. There is nothing on the map to show that he had any idea of the outline of the coast from Puerto de Mosquitos on the western end of the isthmus of Panama to Honduras, a part of the coast first discovered by Columbus on his fourth and last expedition, (from May, 1502 to November, 1504.) He had no conception of the configuration of the Gulf of Mexico, which Cortez first navigated in 1519, though the existence of the coast of Mexico was made known at an earlier period by the natives of Cuba; nor is the coast of the United States of North America distinctly designated, though Sebastian Cabot on his second expedition, sailed along the whole coast from Newfoundland to Florida, in 1498. Northerly in a *mer descubierta per Ingleses*, N. E. of Cuba, the map gives the discoveries of English navigators on a coast that runs from east to west. The coast here represented is probably that extending along the Gulf of St. Lawrence, opposite the present

Island of Anticosta. The isle of Verde, N. E. of Cuba d'Ingleterre is probably Newfoundland. The coast which abruptly turns to the north, extending only to  $70^{\circ}$  latitude, and reaching so far east as to embrace the Islands of Trierland, is most probably the present Iceland.

This map contains no positive allusion to the earlier discovery of the continent of America on the coast of Labrador, by John and Sabastian Cabot, between latitude 56 and 58, on June 24, 1497, thirteen months before the discovery of the continent of South America, at the eastern part of the province of Camana by Columbus. It is very likely that de la Cosa knew it, but why he did not state it, is not known.

This is the proper place to remark that the so styled first discoveries of the continent of North America by the Cabots, and of South America by Columbus, should be designated only as rediscov-eries. About 500 years before that period, (A. D. 1000,) Leif, the son of Ereik the Red, the Scandinavian, landed on the continent in Massachusetts, which was a part of Vinland, which name the Scandinavians gave to the coast between Boston and New York. According to the oldest tradition and Icelandic record, even the southern coast between Virginia and Florida, was already described under the name of the White man's Land, or Great Iceland. Intercourse subsisted between Greenland and New Scotland (Maryland) until 1347; between Greenland and Bergen, in Norway, until 1484, that is, until seven years after Columbus had visited Iceland.

All the original maps of Columbus and Vespuccius are lost, so that this one of Juan de la Cosa is to be regarded as the oldest extant. Until it was discovered and published by Humboldt in 1832, two in the military library at Weimar, of the years 1527 and 1529, were considered the most ancient, but they are twenty-one and twenty-three years of more recent date than the death of Columbus in 1506.

The first *engraved* map of portions of the new continent, appears in the Roman edition of Ptolemy of 1508, but it does not contain the name America. This name appears in no edition of Ptolemy before 1522, but it does appear in some other works and maps published ten or twelve years before that period, as shall presently be shown.

Another question of interest in this connexion is, what is the origin of the name *America*, and who gave that name to the continent? This is an interesting enquiry. We all think it should have been called Columbia, but how came it to be baptized America? The solution will show how the single suggestion of one man made even in error, can forever determine the designation of continents.

Columbus died in Valadolid on 20th May, 1506, and one year afterwards there appeared an anonymous work in Latin, entitled *An Introduction to Cosmography*. It was published in the small city of St. Die, in the Vosges mountains of Lorraine, and it contains the proposition to give the name of America to the new world, "in honor of its discoverer, Amerigo Vespucci."

A second edition of this work appeared in 1509, in which the author gives his name as Martinus Ilacomylus. Two other editions appeared in Venice

in 1535 and 1554. Notwithstanding its frequent publication, this book has now become so rare that in 1832 there was but one copy in Paris, and that not even in the Royal library. Who was this Ilacomylus who first gave the name America to the new world? For more than 300 years it was uncertain, and according to Navarette, the great geographer, he was regarded as a Hungarian, but Humboldt has irrefutably proved that he was a German, a teacher of geography at the gymnasium in St. Die, and a native of Freiburg in Breisgan. His German name was Martin Waldseemüller (or Waltzemüller.) We are indebted then to a German lecturer on geography in an obscure town in the Vosgian mountains, for this name.

The settlement of this question is important as regards the personal character of Vespucci. Not a few influential historians have charged him with assuming the name himself, and inserting it on maps of the new discovered countries, which he as pilot major had executed in Seville. This name was first proposed in 1507, and he was not appointed pilot major until 1508. Besides, the idea of having discovered a new world, never entered into the mind of Vespucci, nor in that of Columbus. Both died in the full conviction of having discovered parts of Asia, before unknown. Only four years before his death, Columbus writes to Pope Alexander VI: "I have taken possession of 1400 islands, and have discovered 333 leagues of the continent of Asia." Vespucci died February 22, 1512, (not in 1508 as Robertson asserts, and not in 1516 as Bandini and Tiraboschi maintain,) without ever having heard of the honor which the geographers had conferred on

his name. The name did not appear on any maps until eight years after his death. It is remarkable, that Ferdinand Columbus, who as the biographer of his illustrious father, most strenuously vindicates his character and reputation against all attacks, and whose work was finished only in 1533, never expresses himself unfavorably of Vespucci, and does not even mention the name "America," although it was at that time already extensively known. But if this son, so jealous of his father's fame, had at all suspected Vespucci of arrogating claims to distinction to which his own father was entitled, he would have denounced him severely, as he did all others who tried to tarnish the reputation of the great navigator.

Thus the admiration which a German geographer entertained for Amerigo Vespucci, excited by reading his correspondence with Renatus of Lorraine, was really the occasion of giving the name of America to a large portion of the globe.

Now, let us proceed to the illustration of our special theme; the history of Martin Behaim. Germany for ages, has been the birth place of genius. Her history is full of heroic deeds in every department of human effort. It is the land of science, of art, of arms and of song. The pre-eminence of Germany in the highest grades of intellectual exertion, and her amazing progress in every art that can ennoble mankind, have elicited the applause of all who can be charmed by poetry, or instructed by philosophy. Though other lands have produced a more brilliant array of great navigators and discoverers of unknown countries, yet it is not the mere mariner or commander of an expedition, who de-

serves the entire credit of discoveries. It is true, he incurs the risk, he endures the labor, he suffers the exposure and has the honor of first *seeing* the long sought for land, but it is the astronomer on board mapping the heavens, the geographer drawing his charts, the meteorologist observing the temperature, the hydrographer watching the tides, the artizan making and manipulating the nautical instruments, the philosopher studying all the phenomena occurring in nature—it is he who eminently deserves a large share of the honors of discovery, for it is by the aid of his labors that the mariner is led to his brilliant results. Many a splendid geographical discovery has been made at sea, by the help of mathematical and artistic labor executed ashore. It was German astronomers, who by their calculations and tables, enabled the seafaring nations of that day to accomplish many of their brilliant exploits in the field of geographical discovery. Behaim was mariner, astronomer, geographer, artist and philosopher, all combined, and was publicly acknowledged by the Emperor Maximilian, to be the most extensively travelled citizen of the German empire.

His family was of Bohemian origin, which immigrated to Nurnberg on account of religious persecution about A. D. 916. It was afterwards exalted to the rank of the patricians of that famous city, a subordinate degree of nobility in former times highly prized.

Our hero was born in 1459, two or three years later than Columbus. We possess no records of his early life, but his father who was an enterprising and wealthy merchant, had his son educated in the highest schools. The imperial city of Nurnberg

was distinguished for its enterprizing, thrifty and pious spirit, and all the sons of those who could afford it, received a scientific education. The merchants of Nurnberg of that day, and even of earlier times, established commercial relations all over Europe, where there was a prospect of gain, and even in the East Indies, a few years after the discovery of the passage by the way of the Cape of Good Hope. The sons of the patricians who were the most distinguished merchants of the city, were obliged to learn the languages of Europe, and to devote themselves strictly to commercial pursuits and studies. After their apprenticeship, they were sent to other countries to serve as clerks or agents of their fathers, and in this capacity Martin Behaim, quite a young man, appears in the Netherlands.

But what is particularly interesting to us is the relation which young Behaim held to Regiomontanus, the greatest mathematician and astronomer of that day. His German name was John Müller, but in conformity to the custom of many of the learned men of that age, he latinized his name from his birth place Königsberg (Regismons.) He was born in 1436, and died in Rome in 1476, in the 40th year of his age; after having run a splendid scientific career in various countries in Europe, he settled as he thought finally in Nurnberg in 1471, for the purpose of prosecuting his philosophical pursuits, but at the end of 1475, Pope Sixtus IV appointed him bishop of Ratisbon, and called him to Rome to improve the calendar. Unwillingly did he obey this call. He went to Rome and died a year afterwards. This was a convenient way of securing the services of a learned man,—conferring

on him the bishopric of a diocese, which he never expected to see, and enjoining duties he never was expected to perform, and for which he had no inclination. But in this way the Pope succeeded in drawing the mathematician to Rome, which any other offer might have failed to do.

His residence in Nurnberg had the most beneficial influence on the scientific improvement of the citizens. It was at that time a sort of central place, brought into close contact with all parts of Europe, by the commercial relations and travels of its merchants, through whom the philosopher held scientific correspondence with the learned of all lands.

His influence on the people was marked and decisive. His studious example and attractive lectures created a zealous interest in the higher mathematical sciences. A wealthy citizen, Bernard Walter, purchased printing materials at his own cost for the purpose of publishing the works of Regiomontanus, and the same liberal patron of science, furnished the means also of procuring mathematical and astronomical instruments for the use of those who cultivated these branches. The philosopher also on his own account, established a manufactory, in which with his own hands, he made a large number of curious and valuable instruments. Some of these are preserved to this day, in the city library of Nurnberg, where so many interesting scientific and artistic relics of the bygone ages are to be seen.

Geography was also the subject of his ardent pursuit. No means were left unemployed to gain a knowledge of all the discoveries, and to publish them to the world. He was in constant correspondence

with many of the philosophers of that day, and especially with Toscanelli, the famous Florentine mathematician, the same man who furnished Columbus with a chart on which was marked the westward course he would have to take towards the East Indies.

The early death of Regiomontanus in 1476, and in the fortieth year of his age, left many of his works unfinished, but during his brief career, he performed an incredible amount of scientific labor. He contributed much to elevate Nurnberg to as high a degree of celebrity in science as it had for many years before enjoyed in commerce. One of his zealous eulogists says of him, "Nurnberg attained to such an exalted distinction in mathematical studies, through the influence of Regiomontanus, that Tarentum could not more justly boast of Archytas, nor Syracuse of Archimedes, nor Byzantium of Proclus, nor Alexandria of Ctesibius, than Nurnberg of Regiomontanus."

During the residence of this distinguished philosopher in Nurnberg, (1471-1475,) our hero, Martin Behaim, was from 12 to 16 years of age, just at that period of life when a tendency to higher studies is developed. He was of a family of the first rank, which always had access to the philosopher's work-rooms and study, and we may well presume that this ardent young man, who a few years later became celebrated as a geographer and astronomer, availed himself of the instructions of Regiomontanus. The Portuguese writers say, that Behaim boasted of having been a pupil of Regiomontanus. Though he was destined to the pursuit of trade by his parents, yet like many a commercial

apprentice since that time, his expanding mind could not be bound down to the ledger, the sales-room or manufactory, but soared aloft to subjects of higher intellectual interest. From the counting-room, he would go to his astronomical studies, impatient for the hour of release from what he called the drudgery of business. The deep hours of the night were spent in severe intellectual toil, whilst most of the other young men of Nurnberg were engaged in frivolous and perhaps vicious amusements. But Behaim's memory lives, and they are forgotten or were never known. He contributed to the increase and diffusion of knowledge among men—they aimed only at the increase of gold, and the preservation of it among themselves. But still, he was compelled to make business his chief employment, and the death of his father in 1474, only imposed heavier responsibilities on him. But it is not likely that he was a very successful merchant, unless he had a more active partner than himself, for a man whose mind is constantly employed about maps, charts, globes, heavenly bodies and mathematical instruments, can hardly be expected to be fit for anything else. He who dwells among the stars, finds it hard to come down among the common places of earth. Astronomy and traffic in the "sugar and cotton line" do not exactly suit together. Yet from 1475 to 1479, we find Behaim in Mechlin, Antwerp and Frankfort, apparently engaged in mercantile transactions, and all the while exhibiting the most affectionate interest for his mother, as his published correspondence shows. Still it is very probable that science occupied as much or more of his attention than commerce. He every where sought the society

of learned astronomers, and we can easily conceive how a man of his tastes and inclinations would spend his time in the intervals of business, or even during some of the hours which other more systematic men would devote to it. All studious men know how easy it is to find excuses to prosecute a favorite branch, even amid the calls of pressing professional engagements. Thus it was with Behaim; business was often compelled to yield to science. Though his pecuniary interests may have suffered, yet his reputation was advancing every day. The merchant astronomer who may not have been successful on change at Antwerp or Frankfort, was in intimate intercourse with another, and a very different class of men from that which congregates in the busy mart. Let it be remembered that at this time he was not over nineteen years of age, and yet his fame had gone beyond the boundaries of his native land, and the government of Portugal, at that period, extensively engaged in maritime pursuits, perhaps more than any other, employed Behaim in her marine service. We now lose sight of him in Germany for eleven years, (1479-1491.) He did not visit his native city until 1491, when he returned for a short period, laden with honors and enjoying a world wide reputation as cosmographer and navigator. The young merchant becomes an adventurous sailor and explorer, and makes invaluable contributions to geographical knowledge.

He was not over twenty years of age (1480) when we find him a member of a committee appointed by King John of Portugal, for the promotion of nautical science. This circumstance alone stamps the scientific character of the man. One so young, and

a foreigner too, would not have been elevated to such a position, if he had not already made extraordinary progress in mathematical knowledge. The pursuits of commerce brought him to Lisbon, for the merchants of Nurnberg held relations with most of the cities of southern Europe. But there is reason to believe that the interests of science too, had no small influence in determining his visit to the south. At that early day, the Germans seemed to have been the most favored of all foreigners in Portugal. Jerome Munzer, a great German traveller of those days (1494-95) informs us that he was honored by invitations to the table of King John four times. He remarks that on his travels through the peninsula, he encountered many German settlers as clergymen, merchants, artists, printers and artillerymen. Even in Granada, which had been rescued from the Moors only three years before, and as yet inhabited by them, he found German printers. King Alphonsus who reigned from 1448-81, had Germans, particularly as artillerymen, in his service on his marine expeditions, and elevated one of them to the command of all the Portuguese rifle corps. As German powder was much sought after, and Alphonsus admitted all warlike instruments and materials into his country free of duty, the Nurnbergers naturally took advantage of this favorable permit. Even as early as 1428, a German (Lambert von Horgon) immigrated into Portugal with his family, and received from King John a section of land as a present, on condition of inducing German colonists to come and cultivate it. The Germans in Lisbon who were in the service of the government as marines or soldiers, enjoyed special privileges, and

established a hospital in Lisbon for themselves. The German Hanseatic cities were not inactive in regard to Portuguese voyages of discovery; they supplied ships and provisions, and it is likely, loaned money as well as furnished marines; the first printers in Portugal were Germans. One of them, Valentine Ferdinand, was in 1503 appointed shield-bearer to Queen Leonora, wife of John II. It was he who translated the travels of Marco Polo into Portuguese. King Manuel valued the art of printing so highly that he invited the German printer, Jacob Cromberger, to Portugal, elevated him to the rank of the nobility, and issued a decree granting to all who pursued the "blessed art" in Portugal, equal rights with the nobility of the royal house. Not only were the men of Germany in great demand in Portugal and other southern countries, but her manufactures also. Nurnberg, though lying far in the interior, was particularly famous among the Portuguese for the cultivation of those sciences and the manufacture of those instruments which related to navigation. Compasses were, at that time, almost exclusively manufactured at Nurnberg; the compass makers were so numerous that in 1510, they united themselves into a special guild. The celebrated ephemerides of Regiomontanus first appeared in Nurnberg in 1473, and these were much sought after by navigators. Thus Germany was enterprising in those days. German emigrants were found every where in southern Europe, and we have some conception of what German emigration is since the discovery of this country.

The duties of the committee appointed by King John, and of which young Behaim was a member,

were to simplify nautical instruments, to discover new ones, and to diffuse mathematical and astronomical knowledge among the Portuguese. It was composed of the most distinguished mathematicians of the country, and consisted of five members, Jose and Rodrigo, physicians to the King, Martin Behaim, the bishop Ceuta, Diogo Ortiz and the bishop of Viseu Calçadilha. Humboldt says, that these two last are but one person, with the two different names. One of them, Jose, was an Israelite.

The King was particularly desirous that the committee should discover a method by which navigators who had lost sight of the coast, might find their way, for though the compass gave them the direction in which they should steer, yet they were uncertain of their latitude. He directed Behaim particularly, in consultation with the two physicians, to discover some means whereby mariners could determine their exact position at sea. They discovered the art of sailing by the sun's height—they calculated declination tables for the sun, and applied the astrolabe to the purposes of navigation. A similar instrument was known to the Portuguese before Behaim's time, but it had been used only by astronomers. As early as the close of the thirteenth century, there was an instrument used on the Castilian ships by which the hour of the night could be determined at sea by the stars, but at the same time, the Portuguese do not appear to have used the astrolabe at sea, until this committee proposed by it to measure the height of the sun. The chief improvement, made by Behaim in the instrument, was the substitution of brass for the coarse material of wood, and instead of having it placed on a tripod

and thus be subject to the ship's motion, he attached it to the mast, and by a proper arrangement made it maintain a vertical position.

The Portuguese writers give Behaim the credit of having contributed most towards the improvement and application of the astrolabe. He had been educated in the city from which the Pope had called Regiomontanus to Rome for the purpose of improving the Calendar—he had even been a pupil of the great philosopher himself. It was this, that procured him a place in the committee and gave him special influence. He had seen these instruments in the workshop of his teacher, which he recommended to the Portuguese, and was therefore well qualified, young as he was, to discharge the duties of his office. Columbus, Vasco de Gama, Cabot, Magellan and others used these instruments, and it was in this way the Germans exerted no small influence on the voyages of discovery of those days. If many of them did not personally share in the dangers and privations of these adventures, yet it was John Regiomontanus and other Germans who through their nautical instruments and astronomical tables, enabled maritime nations to trust themselves securely to unknown seas.

We now follow Behaim on his first voyage as a navigator. Soon after discovering the application of the astrolabe to the measurement of distance by the sun's height, he had an opportunity of practically applying it. He was appointed by King John, astronomer and cosmographer to the expedition fitted out to prosecute further discoveries on the African coast, under the command of Diogo Cão. The farther these voyages extended, the more cus-

tomary it became to send out a practical astronomer who understood the use of the astrolabe, the quadrant and the tables calculated by Regiomontanus. Occasionally the command of a ship was entrusted to the astronomer, as appears to have been the case with Behaim, and most certainly was with Amerigo Vespucci. On the globe which Behaim afterwards constructed, he gave short memoranda of the results of the expedition at various places. This expedition sailed in 1484, and was absent nineteen months. The most southern point it attained was Table Bay, where they erected a stone column with the arms of Portugal inscribed upon it. The discoveries made during this voyage were the Prince's Islands, and St. Thomas near the equator, and this was accomplished by the aid of Behaim's astrolabe, which emboldened navigators to sail out of sight of land. Before that, islands which lay far from the coast, were discovered only by accident, when ships were driven towards them by storms.

After his return from this voyage, the success of which owed so much to his astronomical science, Behaim was elevated to the knighthood of the order of Christ by John II. The King himself girded him with the sword, and the crown Prince, afterwards King Manuel, buckled on his right spur. The ceremony took place in the presence of the Queen and the whole court.

Here is the proper place to notice a fact which has operated unfavorably on the character of Behaim and has raised up against him a host of enemies, although he is perfectly innocent and has been drawn into the difficulty by injudicious admirers. It is, that he came to America before Columbus, and

hence should be regarded as the real discoverer of this continent. This unfounded claim was first set up by John Christopher Wagenseil, professor of history in the Nurnberg University of Altdorf, who flourished between 1665–1705. This man who was an extensive traveller—a profound jurist, historian and oriental linguist, enjoying a world wide reputation and receiving from crowned heads distinguished marks of favor and honor, abused his exalted position in the learned world, to confer a distinction on the Behaim family to which they made no claim whatever, and in the ground of which probably Wagenseil himself had no confidence. In a latin eulogy which he delivered in 1682, in honor of a relative of our Behaim who had rendered valuable services to the University of Altdorf, the orator in the language of fulsome flattery and unmeasured adulation so common in that day, laments grievously that the name of Behaim as the discoverer of America had not been properly recognized and honored until then, and appeals as proofs that Behaim had gone to America before Columbus, to two Nurnberger documents preserved in the archives of the city, which however say nothing at all of that which Wagenseil wished to show. His other citations merely mention Behaim as a great astronomer and navigator without specifying any of his discoveries. One of his quotations expresses the conjecture that Behaim might have suggested the idea of a western continent to Columbus, but the inference is too bold, that therefore Behaim was the discoverer of America. Wagenseil repeats the assumption in his *Historia Universalis*, which had an extensive circulation in Germany, and this idea

having been copied into other works, became almost universally prevalent in Germany during the last century. More recent investigations and references to Portuguese and Spanish documents have reinstated Columbus into his rights, and as formerly Behaim's merits were exalted above measure, men now felt inclined to depreciate him accordingly. If we dare not claim honors for him which he did not deserve, we will not allow him to be deprived of those which are due him. Several of his countrymen in the United States have maintained the same unfounded position. Mr. Otto, a German gentleman of New York in 1786, addressed to Dr. Franklin and published in the transactions of the American Philosophical Society (1786, II. No. 35) a memoir on the discovery of America, in which he maintains the priority of discovery for Behaim. More recently, a writer named Löher, in a history of the Germans in America, published in Cincinnati in 1847, takes the same untenable ground; whilst of course, we cannot sustain these writers, yet we cannot allow Behaim to be robbed of this merit, that his science contributed essentially to the discovery of America, and this naturally leads us to speak of his relation to Columbus, and the great event which distinguished the life of the latter.

The Spanish historian Herrera affirms (dec. 1, lib. 1, cap. 2,) that Columbus was established in the grounds which determined him to seek a marine way to East India by sailing west, by his friend the Portuguese Martin de Bohemia of the Island of Fayal, who was a learned cosmographer. The Dutch compiler and publisher of a large collection of voyages and travels, Peter Van der Aa improves

somewhat on Herrera and makes Behaim a native of Fayal and a Portuguese. Robertson, in his History of America, follows Van der Aa, and if the City of Nurnberg did not possess his globe and other documents establishing his birth place, Martin Behaim would probably flourish in history as a Portuguese, or at least as a Bohemian immigrant to Portugal.

Let us investigate the correctness of this very credible observation of the Spanish historian, that Columbus was confirmed in his views and conjectures by Behaim.

Columbus began his nautical life in his 18th year, and about the year 1470 went to Portugal in pursuit of employment. Humboldt assumes that it was 1477. The enterprises of the Portuguese at that time attracted many sea-faring men to their country, particularly from Italy, and they were very cheerfully received. In Portugal, he married Felipa, the daughter of Bartolomeo Monnio de Palestrello. This Palestrello was an Italian mariner, who, in the service of Portugal, conducted a colony to Porto Santo, one of the Canaries, and was appointed by Prince Henry, governor of this island. He was already dead when Columbus married the daughter, who lived with her mother in straightened circumstances, in Lisbon. The widow, whom Columbus took into his own family, gave him all the charts and journals of her deceased husband. By the study of these charts, most probably not before 1477, he conceived the plan of finding the way to the East Indies by going westward. In this year he sought the advice of Toscanelli, the celebrated astronomer of Florence, to whom is ascribed the

credit of first conceiving the idea of sailing westward to the East Indies. His correspondence with Columbus on this subject, is exceedingly interesting. The latter made occasional voyages in Portuguese ships to Guinea, and when he was at home he obtained a meagre support for his family by drawing charts, in which he also instructed his brother Bartolomeo. His wife's sister was married to Pedro Correa, who was governor of the island of Porto Santo. Columbus, for a season, resided on this island, where his son Diego was born, but he soon returned to Portugal. Probably, in 1480, he made a voyage to Iceland.

After the committee, of which we have spoken above, had furnished to navigators an improved astrolabe, Columbus conceived himself sufficiently armed to venture out into the unknown sea, and soon after this discovery he made propositions to the Court of Portugal, but he met with no favor. When his wife died, he left Portugal, towards the end of 1484, much disheartened and in straightened financial circumstances. It is uncertain whether he went to Genoa or where he spent the year 1485; in 1486 he was in Spain, extremely destitute, where he supported himself poorly by drawing maps. His attempts to secure confidence in his enterprize, at the Court of Spain, were fruitless, and in 1491 he received a final and peremptory refusal. In the same year he was invited by King John II, of Portugal, to return to Lisbon, but held back by a tender relation to Donna Beatrice Henriquenz, in Cordova, he made a last attempt at the Court of Spain, in which he was supported by a friend. He at last succeeded in effecting a contract, which was signed April 18th,

1492. On August 3d, 1492, he enters on his first voyage.

If we compare this brief sketch of the circumstances of Columbus in Portugal, with the history of Behaim, we shall discover, in several respects, a peculiar affinity between the destinies of both men. Both came to Portugal from foreign countries—both were engaged in drawing maps and charts, which of course required a constant examination of all new discoveries, and frequent intercourse with mariners. We are not sure whether Behaim pursued this occupation as a means of livelihood; he was not poor as Columbus was, but his favorite pursuits naturally led him to employ much of his time in this occupation. Columbus married the daughter of a foreigner, who was governor of the island of Porto Santo—he himself resided in this island, which lies far in the Western Ocean, in  $2^{\circ}$  east longitude. Behaim also married the daughter of a foreigner, the governor of the island of Fayal, which is  $13^{\circ}$  longitude nearer America than Porto Santo. He also lived by turns on this island and in Lisbon.

Behaim came to Lisbon in 1479 or 1480, where Columbus had already lived since 1470 or 1474. Columbus left Lisbon towards the end of 1484. It would have been strange if these two men, engaged in the same pursuits in the same city, had not become intimately acquainted with each other. We should rather suspect that Columbus would seek the society of Behaim, who had brought with him the reputation of having been a pupil of the great Regiomontanus, and as we have already observed, who was a member of the royal commission for the promotion of nautical affairs. It was Behaim, who, by

his improvement of the astrolabe to such an extent as to amount to a discovery, furnished mariners with the means of finding their way on the open sea, and thus of putting Columbus into a position of venturing out on the trackless deep. It was only after the discovery of this instrument that Columbus made the proposition first to the Portuguese government for the prosecution of his cherished enterprize, for now the beginning of such a project must have appeared less adventurous and the success of it more certain. We have before seen that the nautical commission or junta de mathematicos, which King John appointed, consisted of Jose, Rodrigo, Behaim, Bishop Diogo Ortiz and Bishop Calçadilha. They began their labors in 1481. Two of them, Jose and Rodrigo, the physicians, with Behaim, were entrusted with the duty of discovering a method of sailing according to the sun's elevation, and the result was the improved astrolabe. Between 1481 and 1483 Columbus introduced his project to the notice of King John. The King referred it to the mathematical junta for examination. Bishop Ortiz appointed a sub-committee, of which he was chairman, to report on it. The other two members were the physicians. After investigation, they agreed in emphatically pronouncing the enterprize of Columbus as a *negocio fabuloso*.

We may ask, why was not Behaim placed on this sub-committee? He was at that time in Lisbon, and had not yet entered on his voyage with Diogo Cão. He was acknowledged to be a learned cosmograph, and had already rendered invaluable services as one of the commission. The globe of Behaim answers the question. According to the distances marked

on this globe, Behaim must have entirely sanctioned the plan of Columbus, for his island of Fayal lies pretty nearly in the middle between Portugal and the Asiatic Islands. Doubtless it was well known that he favored the proposition—he was regarded as committed, and hence could not be an impartial judge.

The idea of a western passage to India did not originate with Columbus, as we have already observed. It was common among the geographers and mathematicians of that day, who, like Toscanelli, Behaim, Columbus, Vespucci, and all others of any pretensions to science, were convinced of the spherical figure of the earth, but who, at the same time, entertained the erroneous idea that Asia extended much farther eastward towards Europe than it really does. Alphonsus V, the predecessor of King John, had made enquiries of Toscanelli respecting the western route, before Columbus had laid his plans before the Portuguese government. The idea, hence, was not new. There was only wanting a man who was bold enough to venture on the prosecution of it, and that man was Columbus. From authentic accounts, it appears certain that he had some distinguished patrons in Lisbon. Even King John did not allow himself to be deterred by the unfavorable report of the committee. Columbus represented the matter to him personally. The King was inclined to engage in the enterprize, but the injudicious and extravagant demand of an hereditary vice-royalty in the new discovered countries which Columbus made, determined the King to withdraw his favor. There is no doubt that Columbus would have gained his point much sooner if he had not

pursued his private interest to such an unbounded extent. He wanted to be hereditary Vice-King of the countries he would discover, Grand Admiral in those seas, and to receive other extraordinary perquisites. His demands were sufficient to awaken the suspicion and excite the jealousy of any Prince, and this was the cause of his failure. Ferdinand, of Spain, afterwards eagerly took advantage of the occasion of some complaints of the colony of Hispaniola against Columbus, to retrench his extraordinary privileges, which he never again recovered.

An improper advantage was attempted to be taken of Columbus, and the dishonest proposition came from the Bishop of Ceuta. He suggested a plan by which, on the one hand, the desire of the King might be gratified, and on the other, the extravagant demands of Columbus might be evaded.

The plan was to make an attempt to discover this western course without the aid of Columbus, under the pretence of sending provisions to the Cape de Verd Islands. A fleet was fitted out with orders to sail westward, in the course laid down by Columbus, and to ascertain if there were any signs of land. This fleet, which was manned by persons totally unqualified for the enterprize, sailed a few degrees beyond the Cape de Verd Islands, and returned with the report that they saw nothing but a boundless waste of water, and that the proposition of Columbus was ridiculous. Columbus, without any prospect of carrying his plans into execution, in Portugal, and offended by the mean attempt of cheating him out of his anticipated prize by the secret expedition just alluded to, left Portugal in disgust, and without the knowledge of his friends,

towards the end of the year 1484, during the time that Behaim was absent with Diogo Cão, on his voyage to the coast of Africa.

Columbus and Behaim continued their correspondence after the former left Portugal. Herrera reports that Columbus called Behaim "his friend," and refers to him in his application for patronage to the Spanish Court. Columbus, himself, was not lost sight of by the Court of Portugal; as has been observed, he was invited to return to Lisbon by King John, in 1491. He refers to "his friend" of the island of *Fayal*, and this leads us to presume that an amicable relation, and most probably a correspondence, was sustained between them for years after. The residence of Behaim on Fayal, which is by one-half nearer to the presumed coast of Asia, must have given a peculiar weight to his testimony of the possibility of reaching the coast of Asia and the East Indies by this western route. When Columbus was yet in Lisbon, Behaim, as it appears, was not yet married; he married only after his return from the voyage with Diogo Cão in 1486; we can scarcely presume that he had been on the island of Fayal before his marriage, and before the departure of Columbus from Portugal. When, then, he refers to Behaim as his "friend in Fayal," he must have been on intimate terms with him during the time that Behaim lived on the island. His residence on this island was of essential service to Columbus, for he was there placed in a position to discover various traces of the existence of a country towards the west. From time to time large masses of pine timber were deposited on the beach of Fayal by currents from the west, and on the

shores of the neighboring island of Flores, were found corpses of an unknown race of men, and these circumstances were regarded as proofs of the existence of a country to the west.

Even if we are far from ascribing to Behaim the merit of discovering America, which is founded only on the untenable presumption that, in his voyage to Southern Africa, he was driven to the coast of Brazil, as Cabral was subsequently, or that he was once drifted to the coast of North America from Fayal, of which, however, he says nothing on his globe—if we ascribe to him no undeserved merit, yet we maintain that he contributed essentially to the execution of Columbus' plans by his astrolabe, which enabled navigators to direct their course in the open sea, as well as by the opinion, though erroneous, but which he shared with Columbus, of the proximity of the coast of Asia, to which his reputation as a learned cosmograph, living so far on the Western Ocean, gave peculiar weight.

If we examine the globe of Behaim, which he constructed in 1492, the same year that Columbus sailed on his first voyage of discovery, and observe the short distance which he makes between Fayal and the Antilles, and thence to the islands of the Asiatic coast, we cannot for a moment doubt that Behaim would have had no hesitation in undertaking such a western voyage. He might, indeed, have thought it more rational to follow the more certain way to East India round Africa, which he himself accomplished as far as the 22° of south latitude, and which he distinctly marks on his globe, although Vasco de Gama first completely sailed over this course.

In considering this subject, we must never lose sight of the fact, that it was not the idea of discovering a new *continent* which determined Columbus to steer westward, but the object was to *discover a marine passage to the East Indies*. Columbus had no presentiment of a new continent; he merely presumed, that on this western way he would discover many new islands and the eastern coast of Asia, and of these new possessions, which he expected to discover for the crown of Spain, he claimed the rights and immunities of a Vice-King before he sailed.

The new continent of America was discovered by pure accident. Columbus, Vespucci, and generally all the navigators of that day, had no other idea than that it was the eastern coast of Asia which they had discovered. Both these men died in that conviction. They, as well as the Portuguese and Spaniards generally, were not satisfied with the discovery of these countries, so long as the anticipated way to the East Indies was not found in that direction. Even all subsequent voyages, also the last of Columbus and Vespucci, had no other design in view than to discover a passage to the East Indies, through or over those large Asiatic Islands, as they thought, or at least preliminarily to reach the Spice Islands of Molucca. The opinion, that America was a part of Asia, was entertained by the geographers during the whole of the sixteenth century. At first the newly discovered coast of the American continent was regarded as a part of Asia, stretching far to the east. Subsequently, North and South America appear on the maps as two divided islands at a moderate distance from the continent of East-

ern Asia. South America is the proper New World, and bears the name America. North America continues to be small, and is frequently associated with Cuba under the same name. Still later, when the discovery was made that there was no passage through the Isthmus of Panama, and Magellan had sailed out into the Pacific Ocean, America again becomes a part of the continent of Asia, extending eastwardly far out into the sea. It would be interesting, if we had time, to follow the various changes on the most ancient maps.

On his second voyage, in 1494, Columbus made his crew swear, as he himself believed, that the coast of Cuba was the extreme end of the continent of Asia, a part of the province of Mango, of the southern section of Cathai, (China,) and that it might be reached by land from Spain. Towards the end of 1500, he writes to Donna Juana de la Torre, governess of the infant Don Juan, "if the new countries discovered by me are not so highly appreciated as the *other* parts of *India*, it is owing to personal hostility; from these lands commerce will be extended to Arabia Felix and to Mecca." In a letter, which he wrote in July, 1504, on his fourth and last voyage, he thus expresses himself: "On the 13th of May, I arrived in the province of Mango, which borders on the coast of China. From Ciguara, in the land of Veragua, there are but ten days travel to the river Ganges." In a letter to Pope Alexander, in 1502, he says: "I have discovered 1500 islands and 333 miles of the continent of Asia." He promises the Pope, from the profits of his discoveries, to support for seven years 50,000 infantry and 5,000 cavalry for the conquest

of the Holy Sepulchre; and declares that it was Satan alone who prevented him thus far, as he had fondly hoped, to gather annually a ton of gold." Vespucci also, in a letter to Pier Francisco de Medicis, says, "that his discoveries related to the boundless country of Asia." Vespucci had as little conception of a new continent as Columbus. Whatever geographical errors these men may have entertained, it is certain that Martin Behaim aided them essentially in their discoveries.

Whether Behaim was intimately acquainted with Vespucci, cannot be determined from Spanish or Portuguese documents. It is a remarkable fact, that Vespucci's name is no where mentioned in Portuguese archives. But still we should not wonder at this apparent oversight, when we know that many persons of distinction and many important events have been passed over in silence by the authors of those days. Facts crowded upon them too thickly to record every thing. In general, they were satisfied with mentioning only the commanders of an expedition. The subordinate officers and the astronomers are frequently unnoticed. The latter, on the other hand, who not improperly regarded themselves as the principal characters of the expedition, as they directed the course of the ship in these voyages of discovery, very seldom in their reports mention the names of the commanders. Thus, for instance, Behaim, when he speaks of his voyage four distinct times on his globe, in no place mentions Diogo Cão. Vespucci himself, who accompanied these expeditions only as astronomer and cosmograph, makes no secret of the fact, that he had a superior officer over him, but he speaks

with little respect of the scientific attainments of these officers, and never mentions their names in his reports. Besides, many important reports of those days may have been lost: in others, frequently momentous circumstances are omitted. Thus, for example, the celebrated Spanish historian of the West Indies, Herrera, who mentions Behaim, knows nothing of the Italian *savant* Toscanelli who corresponded with Columbus, and to whom the latter is probably indebted for his idea of finding a westward way to the East India. Thus also the contemporaneous Spanish writer, Oviedo, does not even once allude to Vespucci, who was at the same time held in such high respect by the Spanish Court. The name of Christoval Jaquez, a great navigator of those days, does not occur, where we would most certainly expect to find it, in the Records of Domiano de Goes, nor in the general catalogue of Portuguese voyages by Faria y Sousa. In the letters of Vespucci the name of Columbus occurs but once, and then he is mentioned as the discoverer of the island Antillia. Thus, until the more recent investigations of Munioz, it was not known where Vespucci died; and if we wonder that the name of Behaim is not found in the present Portuguese archives, and from this fact conclude that he was not highly esteemed in that country, we must also wonder that the name of Vespucci is not found in the same archives, and yet we know that he was four years in the service of Portugal, performed two voyages to America at the expense of the king, and was in other respects honored by the government.

There can be no doubt that Behaim, who spent his time between Fayal and Lisbon, became ac-

quainted with Vespucci, and that these two men of similar tastes and pursuits should have frequently consulted about the most probable method of finding a western way to the East. It is certain that Vespucci used the improved astrolabe of Behaim, as well as Columbus. In a letter in which he speaks of his first voyage in the service of Portugal, he complains of the ignorance of the mariners, and says that the expedition would have lost its way entirely after a storm, if he had not set them right by the use of the astrolabe and quadrant.

Behaim's connexion with the discovery of the Straits of Magellan, which Wagenseil ascribes to him, is very remarkable. Magellan, embittered by the ingratitude of the King of Portugal, whom he had faithfully served five years, attached himself to the service of Spain in 1517. He exhibited to the bishop of Burgos, a beautiful painted globe on which was described the course he intended to take in finding the way to the East. The Straits, however, through which he intended to pass, he purposely left white on his globe, so that no person might discover his secret. When pressed by the ministers, he declared his purpose to be to sail southward from the mouth of Rio de Solis (now Rio de la Plata) until he came to the Straits. He was certain of finding it, for he had *seen it marked on a chart of Martin Behaim, a celebrated Portuguese geographer*, and that this chart threw much light on the subject.

Pigofetta, who accompanied Magellan on this expedition and kept an extensive journal, and one of the few who returned in good health, says: "On the 21st of October, 1520, we discovered a Strait, to

which we gave the name of the Eleven Thousand Virgins, to whom that day was consecrated. This Strait is one-hundred and ten miles long and a half mile wide. It extends into another sea, to which we gave the name of Pacific. High, snow covered mountains surround it; it is also very deep, so that we could not cast anchor excepting very near the shore, and then only in twenty-five or thirty fathoms. Without the superior knowledge of our commander we never would have found the outlet of this Strait, for we all thought it was closed at the other end, but our commander who was as skillful as he was adventurous, knew that he had to steer through a remarkably narrow and unknown passage which he had seen designated *on a chart prepared by the celebrated cosmographer, Martin Behaim.*" Supported by this testimony, the distinguished author, William Postellus, (born in 1510 in Normandy,) called this Strait *Fretum Martini Bohemi.*

How are we to account for the fact that Behaim mentions this narrow passage between the two seas, and yet we have no account of his having been there? But what he did from 1494 to 1506, when he died in Lisbon, (that is, twelve years,) is wholly unknown to us. It is not impossible that he may have seen the Straits and designated them on his chart from actual observation, though we have no account of it. The last letter from him extant is of the date of 1494, and his absence on distant expeditions may account for this interruption in his correspondence. This is a very probable surmise. On the island of Fayal, he was one third nearer America than the Portuguese—the Azores were a usual landing place for ships on their way to

America ; Columbus himself on the return from his first voyage (February 13, 1493) landed on the island of St. Maria ; the inhabitants of the Azores were enterprising seamen who carried their commerce even to Ireland. Behaim was in 1494, in which his last letter is dated, but thirty-five years of age, a man in the vigor of life. Under such circumstances, we feel almost compelled to assume, that a man so ardently devoted to marine affairs and geography, and who was so much nearer to America than the inhabitants of Europe, could not resist the impulse of making a voyage to the new and much talked of country. It was precisely at the time that Behaim had returned to Portugal and to Fayal from his visit to Nurnberg, that the Portuguese were most actively engaged in finding a southern passage to India on the eastern coast of South America ; is it at all improbable that Behaim accompanied some of these expeditions and actually accomplished the passage through the Strait himself !

We are not to assume that no other expeditions sailed towards America than those of which Spanish and Portuguese writers make mention, and hence that Behaim never visited the Strait, because no writer gives us any account of it. Even some of the government expeditions are not noticed by authors ; but besides these, there were not a few secret adventures on private account, which of course are not recorded, but by means of these, intercourse between the two hemispheres was comparatively frequent.

Even if we cannot positively assume that Behaim himself ever saw the Strait, yet the designation of it on his map can be naturally accounted for on the

ground that he *presumed* there must be a passage and he marked it down before it was really discovered. Even if he never had been in Brazil, yet the different expeditions to the Brazilian coast, and particularly those of Vespucci, taught him that the newly discovered country of  $10^{\circ}$  south latitude extended towards south-west, and that the presumed and long sought for passage must eventually be found further towards the south. He marked it on his map agreeably to the custom of the geographers of that day, who not only introduced what was demonstrated to be geographical truth, but also their own probable conjectures and assumptions. He had the analogy of Africa before him, which extends far towards south-east, but which finally terminates in a point which can be sailed around. Behaim had also marked on his globe the eastern coast of Africa and the whole passage to India, although this prescribed way was actually sailed over for the first time six years later by Vasco de Gama.

But what shall we say to this remarkable fact, that a geographer in the centre of Germany, far removed from all connexion with the navigators of the west, not only designated with tolerable exactness the figure of South America, but even the Straits subsequently named after Magellan, before Magellan discovered them? This was actually done by John Schöner in 1520, a celebrated geographer of Nurnberg, whose charts and globes, as well as those of Apianus of the same period, separate North and South America from Asia and Japan by a sea, whilst other maps of that day regard America as a part of Asia or in close con-

nexion with it. This globe is still preserved in the city library of Nurnberg. Magellan discovered the Strait on October 21, 1520; in the same year, Schöner finished his globe in Bamberg; he could not have heard of this discovery in time to have marked it on his globe which was finished the same year that the discovery was made, but besides this, we knew that he had designated the Strait on another globe five years before! The question is, whence did he derive his information of a southern, but yet nameless passage into the Pacific Ocean, but from Behaim? Schöner had studied in Nurnberg, where he became well acquainted with the correspondents and relatives of Behaim, and most probably corresponded with him himself, and thus gained his information. In the preparation of his globe, he would naturally consult the great astronomers and geographers of the day, and standing in close connexion with those of his own country, and hearing all about Behaim's discoveries and well founded assumptions, he adopted them and transferred them to his globe; and yet strange to say, this same man who in 1520 had tolerably correct geographical ideas, thirteen years later (1533) abandoned the opinion that America was a distinct country, and wrote a quarto to prove that the American islands constituted a part of Asia. He says, that later investigations establish this fact!

Whatever we may think of the relation of Behaim to the discovery of the Straits of Magellan, it cannot appear unreasonable that Postell should have given it the name of *Fretum Martini Bohemi*. Magellan according to indisputable documents, had repeatedly acknowledged that he had found this Strait desig-

nated on a chart of Behaim, and that this chart awakened in him the idea of sailing through this passage to the Moluccas. The honor of having really found the way to the Spice Islands through the Strait, belongs to Magellan, but it should have retained the name of him to whom the adventurous navigator himself confesses that he owed the knowledge of the passage.

We shall now speak more particularly of Behaim's globe, to which allusion has several times been made.

It has been stated that his principal residence was the island of Fayal, where he was engaged in the service of Portugal. It appears that his correspondence with his relations in Nurnberg was not very active. He had been absent too long to be on very intimate terms with the family at home.

In 1491 he visited them in Nurnberg. His brother, Wolf, who resided in Lyons, wrote to his cousin in Nurnberg thus: "I am sorry to hear that my brother Martin is still with you, leading such a singular life. I wish we were entirely rid of him." It is likely that the free and easy manners of a southern sailor, did not exactly suit the sober industry and rigid morals of the staid old Nurnbergers. They expected that the knighted Martin should devote himself from morning to evening to the duties of the counting room, or to some other utilitarian pursuit, with the same activity that characterized the sons of the Nurnberger merchants. Instead of this, he did nothing but spend his time in an amateur cultivation of a small garden. This brought in no money, and his economical neighbors regarded it as an unprofitable waste of time. His brother

Wolf, who must have been a great utilitarian, thought he might open a trade in vegetables! His mode of life gave great offence, and more particularly when they discovered that his rank as a knight would not allow him, according to the Portuguese notions of propriety, to engage in commerce of any kind.

Behaim had become a sailor, and as was the case with all Portuguese seamen of that day, he was always ready to peril his life at sea or in battle against the Moors by land, but little inclined to a regular, continuous business requiring sedentary, quiet labor. The manners of the Portuguese at that time differed so much from those of the Germans, that a Portuguese who remained in Germany, every where gave offence. Even their costume was too gay and frivolous for the sober and plain dressed Nurnbergers. When Behaim's son visited his father's relatives in Nurnberg in 1520, he was compelled to lay aside his Portuguese dress, and to buy a plain black German suit. From all this, it is evident that Martin Behaim was no very welcome guest to the friends of his family in Nurnberg.

The principal design of his visit to that city, may have been to settle affairs relative to his inheritance, for his mother had died in 1487. It is certain that he returned to Portugal much richer than when he left it. He remained in Nurnberg two years.

It was not, however, horticultural recreations alone that occupied his time during these two years. Together with the prosecution of his favorite studies, he constructed the celebrated globe which is to this day preserved in the family of Behaim. An inscription on it, asserts that he made it in 1492

at the request of three persons, the principal citizens, and leaves it in the city as a memento of his sojourn. It is crowded with notices of the various islands and regions, some of which are curious enough.

The diameter of the globe is two feet. The material of which it is constructed is pasteboard, covering a wooden frame. This pasteboard is coated with gypsum, and over this again is stretched parchment on which the drawings are made. An iron axis goes through the centre. The sea is painted in ultra marine, the land is brown and green; the tops of the snow mountains are white. The inscriptions and names are of different colors, in gold, silver, white and yellow. The meridian is iron; the horizon is brass, and the whole is supported on an iron tripod. As may be expected, time has wrought some changes in its appearance; the ultra marine has become black, and the other colors have become pale. It is now preserved with great care by the family, and in 1847 a perfect facsimile of it was made for the Academy of Paris, and a copy was also left with the family. There is no notice of America on this globe.

Behaim returned to Portugal as we have seen in 1493. Soon after his arrival, he was sent by King John on a secret embassy to the Netherlands, with which the Emperor Maximilian was in some way connected. The fact is, it concerned the emperor's own son Philip, who was about to ascend the throne of the lower countries. The reason why Behaim was sent, and not a native Portuguese, was doubtless from consideration to the emperor himself. Behaim was not unknown to him, and he had

openly declared Behaim to be the most extensively travelled citizen of the German empire. But in relation to Philip also, a native of the Netherlands, the selection was appropriate, for Behaim had lived in that country, had married there, and understood the language as well as the German.

He could not at first successfully execute his mission. On the voyage from Lisbon to the Netherlands, the ship was captured by an English corsair, and he was conveyed to England as a prisoner. The complaint against the piracy of the English at that time was universal. Even English nobles were engaged in the nefarious business. In 1470, an English corsair named Falconbridge, a nephew of the Earl of Warwick, who at that time governed England, captured twelve Portuguese merchant ships in the channel, and plundered them. The Portuguese received permission from their King Alphonsus to make reprisals by which the English marine interests suffered to such an extent, that King Edward sent commissioners to Portugal to negotiate for a cessation of the practice.

Behaim was detained in England with his attendants, three months. He was several times so reduced by fever, that he conceived himself on the point of death. After his recovery, he escaped from captivity by the help of a pirate, who conveyed him by night over the channel to the coast of France. Thence he went to the Netherlands in execution of his commission. It is not known what the precise object of it was, but soon after the arrival of Maximilian in the Netherlands, Behaim suddenly left with a despatch to his sovereign. He wrote to his friends in Nurnberg, (March 37, 1494,) that he in-

tended to remain in Portugal until Whitsuntide, and then return to Fayal. This is the last letter from him that is extant. Of his destiny from 1494 to 1506, we know nothing. That he stood in the highest esteem in Lisbon, is evident from the fact that the Cavalier Diego Gomez, dedicated to him a report on the discovery of America, besides the confidence reposed in him by King John. With the death of King John, the affairs of Behaim took an unfavorable turn. The King died October 25, 1495; under his successor Manuel, Behaim seems to have lost his position at the court of Portugal. It is not certain that he had fallen into disgrace, at least, Pigoffetta reports; that the King had a chart of Behaim suspended in his chamber, on which the subsequently discovered Straits of Magellan are distinctly marked, and this is regarded as presumptive evidence that he was still esteemed by the King.

The years between 1494 and 1506, were rich in expeditions to the west and east, and we can only conjecture how Behaim was employed during that period. We do not certainly know whether he took part in any of them, but this is certain that he became poor, and for this we cannot account, for he brought a considerable sum with him from Nurnberg. Under King John II, he doubtless drew a salary from the court which he served as equerry.

Later important discoveries, as that of the Cape of Good Hope, the marine passage to the East Indies and of America, obscured his merits to some extent; younger men rose up prominently; most probably King Manuel on his accession, either reduced his salary or withdrew it altogether. Now he was obliged to have recourse to his private

funds, for his knightly dignity forbade him to engage in commerce, and besides, it is likely he had but little taste for such employments. From the restless sea life, and love of adventure, the luxury and enormous expense of living, the ostentatious and wasteful extravagance which prevailed in Portugal at that time, when every body sought his fortune at sea, and hoped without any trouble to become rich again in the East Indies,—from these causes, his patrimony could very easily be spent. Behaim was not the only man in Portugal about that time, who from an exalted position in society, was brought down to penury and want. Camoens, the celebrated author of the *Lusiad*, (born 1517,) who had resided a long time in India, spent the last years of his life in Lisbon in wretched poverty, and subsisted on alms, which a slave begged for him in the streets at night. Pock, a cotemporary writer, gives us an idea of life in Portugal. He tells us that men became rich and poor very suddenly—that the idea of saving money never entered their minds, and that they would maintain an outward appearance of state and luxury, even if at home the most lamentable destitution prevailed. “This is their way here”—he says—“if a man has ten ducats he must have a scarlet coat, a silver sword, a guitar to serenade the ladies with at night. In Portugal, the air is poisoned with pride. They are the proudest people that can be found in the world; they ride the whole day through the streets with four servants walking behind them, and when they return home, instead of having fowls and other roast meats to eat, they devour a radish seasoned with salt.”

Probably Behaim was enticed into these extravagant habits, and he became poor. But sea faring men seldom become rich; Columbus and Vespucci were both poor, however eagerly the former sought after the acquisition of wealth. It may be that Behaim lost his fortune in some unsuccessful private expedition, for we can hardly suppose that such an adventurous, restless spirit as he would be content with the inactive life of a plain citizen. He may have joined one of those numerous expeditions of the day, and like many other bold adventurers before him and since, paid the price of his rashness by the loss of his fortune. Thus we can explain why it was that he often found himself in pecuniary straits during his repeated sojourns in Lisbon, for after the death of John II, he probably drew no pension from the court.

Behaim died July 29, 1506, in a hospital instituted by the Germans in Lisbon, and was buried in the Dominican church. He left one son, but he does not appear to have inherited the talents or energy of his father.

It is not known whether this son has left any descendants. Most probably that branch of the family died out with the decease of the son, but the father, Martin Behaim, though not represented by any posterity, has achieved for himself a name that will be handed down to the latest generation, and cherished with veneration by all men of science.







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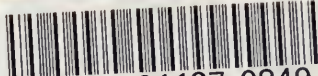
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